

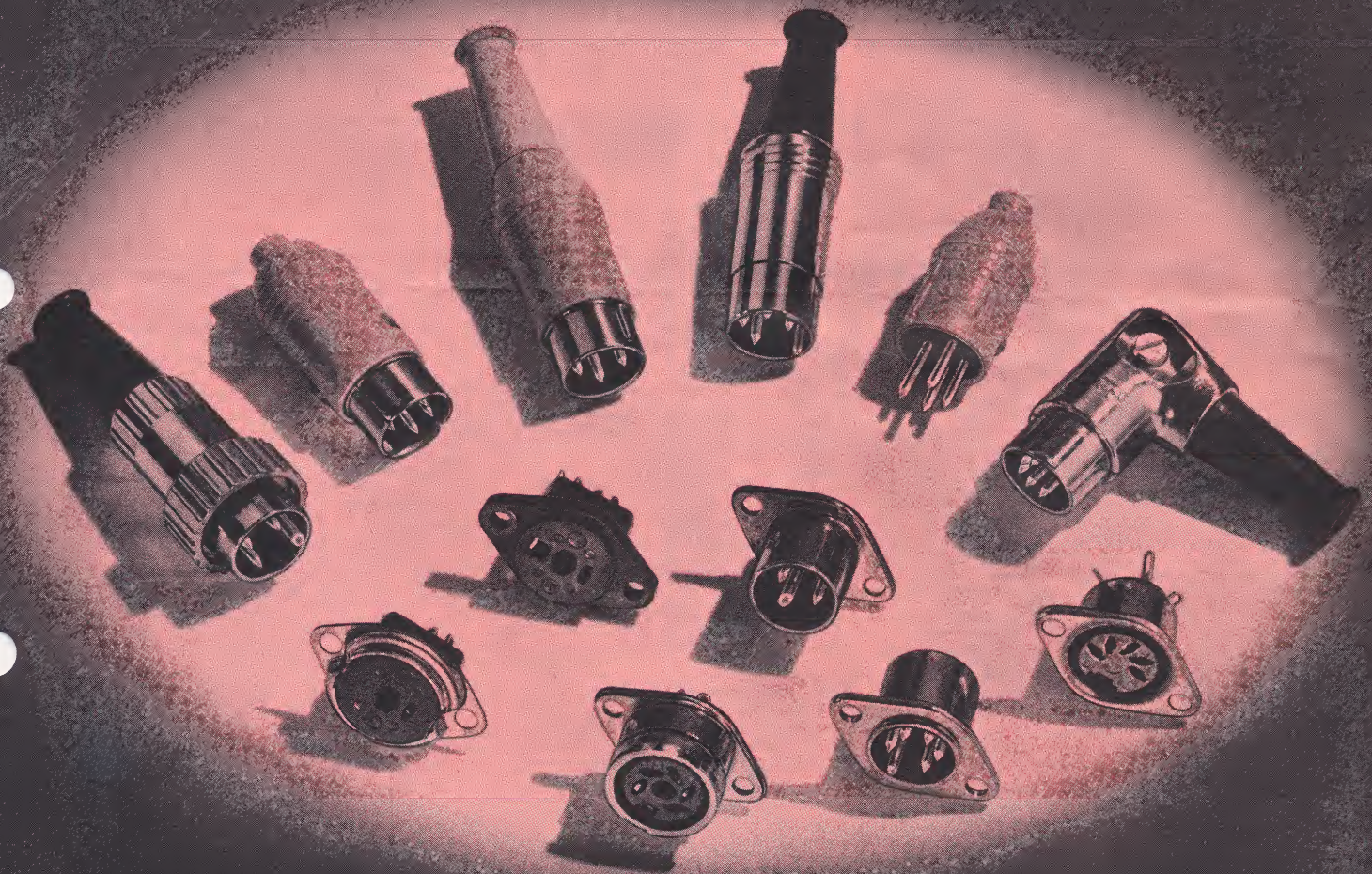
engineering specification

CATALOG NO. C-503
SWITCHCRAFT/PREH
audio connectors

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available at all leading Electronic & Radio Parts Distributors

SWITCHCRAFT
INC.



for details contact:

AUDIO CONNECTORS

Switchcraft/Preh is the name given to this high-quality family of versatile miniature audio connectors. A family that includes male and female plugs and receptacles from 2 to 7 contacts, eye-catching bright nickel-plated shells, colorful plastic snap-on shells. All are precision manufactured.

Switchcraft/Preh family of plugs and receptacles are unique among fine audio connectors for their internal switching. In all, there are thirteen different receptacles that provide some form

of switching.

Designed for audio circuitry, they are also ideal for use in test equipment, instruments, computers, cameras, control devices and many other types of low level circuits.

Switchcraft/Preh connectors have been field tested and proved over many years in a wide variety of critical applications, they are in fact among the best selling, high quality, low-cost connectors in many areas of the world.

SWITCHCRAFT/PREH DESIGN FEATURES:

GROUNDING AND SHIELDING PROVISIONS

A positioning "Ground Key-Rib" or "Ground Contact"—electrically integral with the connector shell—is provided in each plug and receptacle (except those with plastic shells or housings) to quickly ground or shield the connector shell. Where the two halves of a connector are plugged together the ground or shield circuit is automatically engaged through the "Ground Key-Rib" to the "Ground Contact".



Any contact circuit can be readily grounded to the shell of a plug or receptacle by a jumper/wire between the selected contact and the "Ground Key-Rib" and/or "Ground Contact" terminal.

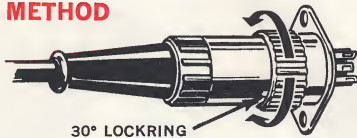
BUILT-IN SWITCHING

Unique internal switching built-in to many of the receptacles provides single closed or up to double break switch circuitry in addition to the mating of the contact circuits. Control switching is also available in a complete line of connectors which are discussed below.

CONTROL AND SWITCHING CONNECTORS

Switchcraft/Preh offers a complete line of plugs and receptacles for monaural and/or stereo speaker switching and other low level audio applications. Many of the receptacles offer flexible switching possibilities when the mating plug is turned 180°. The plugs feature a large, flat center pin for greater reliability. All plugs include a plastic, insulated shell which "snaps" on and off for quick and easy cable installation.

COUPLING METHOD



Switchcraft/Preh connectors use a contact friction or locking means of coupling mating plugs and receptacles. The unique 30° twist locking quickly and efficiently couples the two halves of a connector even under such operating environments as shock and vibration.

INSERT DIELECTRIC

A molded phenolic with high dielectric strength is used in all inserts to effectively reduce noise resulting from mechanical interference. The insulation material holds each contact in a fixed position so that all circuits are properly connected, both mechanically and electrically.

CONTACT PINS AND SPRINGS

All control and switching and metal flanged receptacles have silver plated contact fork shaped springs. In addition, all metal flanged receptacles and metal shell plugs have a silver plated "Ground Contact" with a solder terminal riveted to the flange of the receptacle or to the center terminal of the plug. This "Ground Contact" spring makes contact with the nickel-plated "Ground Key-Rib" barrel of the mating plug, as described under "Grounding and Shielding Provisions". All male plugs feature silver-plated pins.

*Preh is a trademark of Preh Electromechanical Works, Bavaria, Germany.

8-POSITION RIGHT ANGLE PLUG



An exclusive feature of the Switchcraft/Preh family of connectors is the singular 8-position barrel of the right angle plug. This feature enables you to position the cable entree at any one of eight different angles. This gives you great latitude in the design and housing of small, compact electronic equipment.

SNAP-LOCK PLASTIC SHELLS



An insulated plastic shell which "snaps" on and locks to a metal barrel of a plug is available in various pin arrangements from 3 to 7 contacts. These attractive plastic shells provide fast and simple disassembly and reassembly of the plugs. The snap-lock feature securely holds the plastic shell to the metal plug barrel.

POLARIZATION

Switchcraft/Preh connectors are so designed that it is virtually impossible to mate them incorrectly. The polarization is accomplished through contact arrangement and a "Ground Key-Rib" which is provided on all metal barrel plugs.

RUGGED CONSTRUCTION

Thick die cast-zinc shells, bright nickel-plated, have been designed to take a maximum of punishment.

HEAVY-DUTY CABLE CLAMP

Provides a secure lock on most standard size cables.

MOUNTING

A variety of mounting methods is available on Switchcraft/Preh receptacles—such as flush, extended, printed circuit board, screw and rivet types. Plugs are available in straight cord and 90° angle, metal or plastic shells.

CABLE ENTRIES

The high quality flexible plastic bushings used on the Switchcraft/Preh plugs provide a strong strain relief. Standard strain relief cable entry is $\frac{7}{16}$ " a smaller size of $\frac{1}{4}$ " is available on special order. Standard color of rubber bushing used on nickel-plated plugs is black, other colors available on special order.

NOMENCLATURE BREAKOUT

09CL4M

Gender
Number of contacts
Color of strain relief
Type and color of handle
Type of plug, its insert
and contact arrangement. 01 to 49: plugs.

60HA4F

Gender
Number of contacts
Type of terminals
Type of shell and mounting
Type of receptacle, its insert
and contact arrangement. 50 to 99: receptacles.

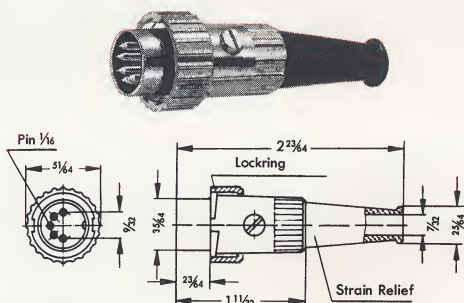
MATERIAL SPECIFICATIONS

Shell: Diecast zinc alloy, bright nickel plated finish.
Receptacle Mounting Flange: Steel.
Receptacle Body: Molded phenolic.
Insert Material: Molded phenolic.
Socket Contacts: Silver-plated.
Pin Contacts: Silver-plated.
Cable Relief Bushing: Soft plastic.
Standard Distributor Package—5



PLUGS

STRAIGHT CORD PLUG with 30° Lock Ring

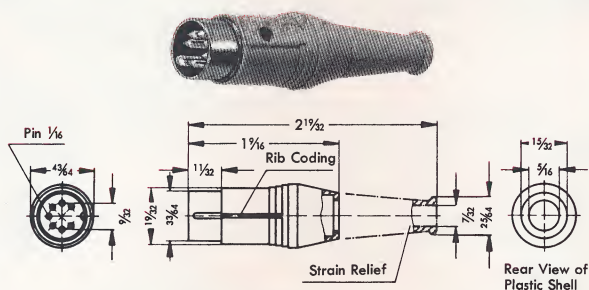


Type 05CL5M—typical

Miniature, male plug with "Ground Key-Rib". Unique 30° turn locking securely fastens two halves of connector. Mates with lock flange female connectors and receptacles. Insert screw firmly holds insert assembly in shell and also retains locking on shell. Flexible black strain relief with 7/32" diameter cable entry. Heavy duty clamp.

Part No.	Description	Pin Arrangement	U.S.A. List Price
03CL2M	2 pins with insulated switch actuator.	1	\$1.75
05CL3M	3 pins at 180°	2	1.75
05CL5M	5 pins at 180°	5	1.95
09CL4M	4 pins at 210°	3	1.85
12CL5M	5 pins at 240°	4	1.95

STRAIGHT CORD PLUG with Shielded Barrel

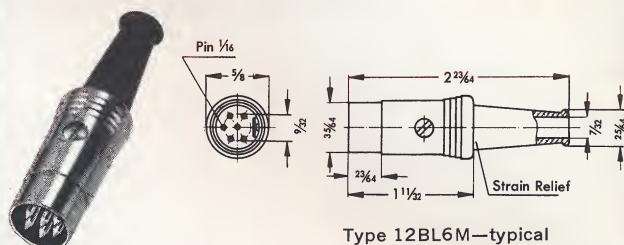


Type 15GM7M—typical

Miniature, male cord plug with shielded barrel and insulated snap-lock plastic shell. The two piece metal barrel surrounds the pin insert to form an electrical shield. The entire insert assembly is held together by snapping the insulated plastic shell over the assembly. The barrel's special metal tab locks the shell in place. Standard color of plastic shell is gray; other colors such as beige are available on special order. All-purpose cable clamp.

Part No.	Description	Pin Arrangement	U.S.A. List Price
05GM3M	3 pins at 180° Gray shell and strain relief.	2	\$1.10
05GM5M	5 pins at 180° Gray shell and strain relief.	5	1.30
09GM4M	4 pins at 210° Gray shell and strain relief.	3	1.20
12GM5M	5 pins at 240° Gray shell and strain relief.	4	1.30
12HN5M	5 pins at 240° Beige shell and strain relief.	4	1.30
15GM7M	7 pins at 270° Gray shell and strain relief.	7	1.50

STRAIGHT CORD PLUG with Extended Barrel

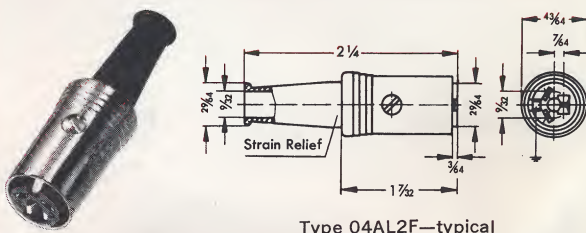


Type 12BL6M—typical

Miniature, male plug with "Ground Key-Rib". Nickel plated diecast handle. Contact friction coupling. Flexible black strain relief. Heavy duty cable clamp.

Part No.	Description	Pin Arrangement	U.S.A. List Price
03BL2M	2 pins with insulated switch actuator.	1	\$1.65
05BL3M	3 pins at 180°	2	1.65
05BL5M	5 pins at 180°	5	1.85
09BL4M	4 pins at 210°	3	1.75
12BL5M	5 pins at 240°	4	1.85
12BL6M	6 pins at 240°	6	1.95

STRAIGHT CORD PLUG with Flush Socket Insert

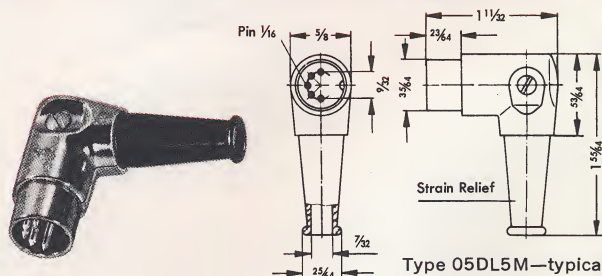


Type 04AL2F—typical

Miniature female plug with "Ground Contact". Diecast metal shell nickel plated. Two contact plug, Part No. 04AL2F includes a break circuit switch (1-B) which is opened by engaging the insulated switch actuator of the mating plug or receptacle. Flexible black strain relief.

Part No.	Description	Contact Arrangement	U.S.A. List Price
04AL2F	2 contacts with closed-circuit switch. (Schematic #4)	A	\$1.65
06AL3F	3 contacts at 180°	B	1.65
06AL5F	5 contacts at 180°	F	1.85
10AL4F	4 contacts at 210°	D	1.75
13AL5F	5 contacts at 240°	E	1.85
13AL6F	6 contacts at 240°	G	1.95

RIGHT ANGLE CORD PLUG with 8 Position Barrel



Type 05DL5M—typical

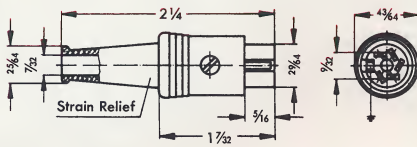
Miniature right angle chassis hugging, male plug with flexible black rubber strain relief. Unique 8-position barrel gives you a choice of any one of eight different cable entree angles. Ideal for use with miniaturized electronic equipment.

Part No.	Description	Pin Arrangement	U.S.A. List Price
03DL2M	2 pins with insulated switch actuator.	1	\$2.00
05DL3M	3 pins at 180°	2	2.00
05DL5M	5 pins at 180°	5	2.20
09DL4M	4 pins at 210°	3	2.10
12DL5M	5 pins at 240°	4	2.20





STRAIGHT CORD PLUG with Extended Socket

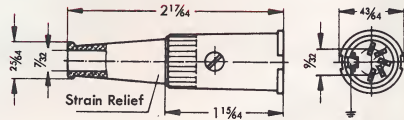


Type 14FL5F—typical

Miniature female plug with extended socket and short metal shell. Flexible rubber strain relief. Socket with "Ground Contact" designed to mate with bayonet type receptacles such as Part No. 61JD5M.

Part No.	Description	Contact Arrangement	U.S.A. List Price
07FL3F	3 contacts at 180°	B	\$1.60
11FL4F	4 contacts at 210°	D	1.70
14FL5F	5 contacts at 240°	E	1.80

STRAIGHT CORD PLUG with Lock Flange

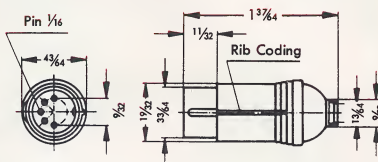


Type 06EL5F—typical

Miniature, female plug with "Ground Contact". Lock flange designed to accept 30° locking. Insert screw firmly holds insert assembly in shell. Flexible black strain relief with 7/32" diameter cable entry. Heavy duty cable clamp.

Part No.	Description	Contact Arrangement	U.S.A. List Price
06EL3F	3 contacts at 180°	B	\$1.65
06EL5F	5 contacts at 180°	F	1.85
10EL4F	4 contacts at 210°	D	1.75
13EL5F	5 contacts at 240°	E	1.85

STRAIGHT CORD PLUG with Snap-Lock Plastic Shell

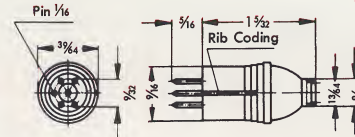


Type 05LK5M—typical

Miniature male plug with short snap-lock plastic shell and shielded barrel. Can be used in place of die cast metal plugs in less critical applications. The two piece metal barrel which surrounds the pin insert provides an electrical shield. The short plastic shell snaps over and locks on the barrel's metal lock-tab. Provides a rugged assembly. All purpose cable clamp. Standard color is gray, other colors available on special order only.

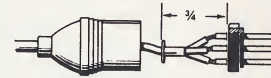
Part No.	Description	Pin Arrangement	U.S.A. List Price
05LK3M	3 pins at 180°	2	\$0.90
05LK5M	5 pins at 180°	5	1.10
09LK4M	4 pins at 210°	3	1.00
12LK5M	5 pins at 240°	4	1.10

STRAIGHT CORD PLUG with Short Plastic Shell



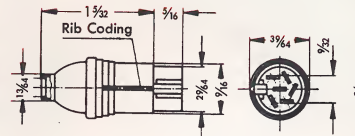
Type 12QK6M—typical

Miniature male plug with short insulated plastic shell. No ground connection. Insert pin assembly snaps in shell to make up complete plug. Quick and easy cable attachments. Simply feed cable through plastic shell and cable clamp ring, solder wires to terminals. Crimp ring around cable and retract. Snap pin insert into shell. Standard color gray, other colors available on special order.



Part No.	Description	Pin Arrangement	U.S.A. List Price
05QK3M	3 pins at 180°	2	\$0.60
05QK5M	5 pins at 180°	5	.80
09QK4M	4 pins at 210°	3	.70
12QK5M	5 pins at 240°	4	.80
12QK6M	6 pins at 240°	6	.90

STRAIGHT CORD PLUG with Extended Socket

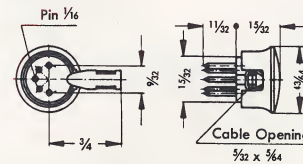


Type 14QK6F—typical

Miniature female plug with extended socket and insulated, short plastic shell. No "Ground Contact". Designed to mate with recessed shell (57JD3M) or extended shell (57KD3M) type receptacles. Tubular cable clamp. Part No. 08QK3F features two extra blanks in insert to mate with plug (5 pins at 180°) where application requires versatility and flexibility. Standard color gray, other colors available on special order.

Part No.	Description	Contact Arrangement	U.S.A. List Price
07QK3F	3 contacts at 180°	B	\$0.60
07QK5F	5 contacts at 180°	F	.80
08QK3F	3 contacts at 180° 2 extra blanks	C	.60
11QK4F	4 contacts at 210°	D	.70
14QK5F	5 contacts at 240°	E	.80
14QK6F	6 contacts at 240°	G	.90

RIGHT ANGLE CORD PLUG with Insulated Plastic Shell

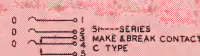


Type 05UK5M—typical

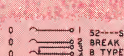
Subminiature right angle cord plug with integral cable clamp and insulated plastic shell. Shell easily snaps-on for quick disassembly and assembly of plug. Normally used for internal circuit connectors. Recommended for use in applications requiring infrequent disconnections. Standard color gray, other colors available on special order.

Part No.	Description	Pin Arrangement	U.S.A. List Price
05UK3M	3 pins at 180°	2	\$0.60
05UK5M	5 pins at 180°	5	.80

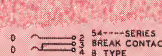
SCHEMATIC CIRCUITS



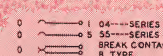
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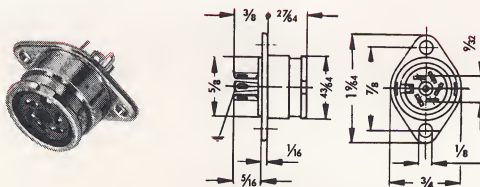
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5

RECEPTACLES

RECEPTACLE for Locking Plug



Type 61HA5F—typical

Female receptacle with "Ground Contact". Chassis or panel mount. Diecast bayonet extension shell with mounting flange. Mates with all locking plugs, such as Part No. 12CL5M. Part No. 55HA2F includes closed-circuit switch (1-B). All receptacles have straight solder terminals.

Part No.	Description	Contact Arrangement	U.S.A. List Price
55HA2F	2 contacts with closed-circuit switch. (Schematic #4)	A	\$1.00
57HA3F	3 contacts at 180°	B	1.00
60HA4F	4 contacts at 210°	D	1.10
61HA5F	5 contacts at 240°	E	1.20

RECEPTACLE for Chassis or Panel Mounting

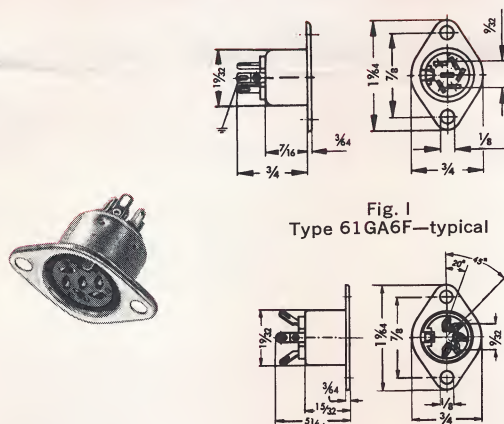


Fig. I
Type 61GA6F—typical

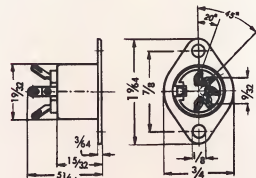
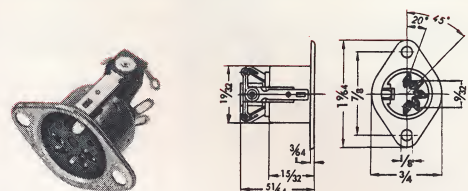


Fig. II
Type 57GB5F—typical

Drawn metal recessed shell with mounting flange and "Ground Contact". Available with straight or flared solder terminals. See drawings above. Part No. 55GA2F includes a break contact switch circuit (1-B), which is actuated by an insulated pin of the mating plug, such as Part No. 03BL2M. Part No. 58GB3F features two extra blanks in insert for proper mating with (5 pins at 180°) plug where applications may require greater connector flexibility.

Part No.	Fig. No.	Description	Contact Arrangement	U.S.A. List Price
55GA2F	I	2 contacts plus closed-circuit switch. (Schematic #4)	A	\$0.70
57GA3F	I	3 contacts at 180°	B	.70
57GB5F	I	5 contacts at 180°	F	.90
58GB3F	II	3 contacts at 180° 2 extra blanks	C	.75
60GA4F	I	4 contacts at 210°	D	.80
61GA5F	I	5 contacts at 240°	E	.90
61GA6F	I	6 contacts at 240°	G	1.00
62GB7F	II	7 contacts at 270°	H	1.10

RECEPTACLE with Closed Circuit Switch

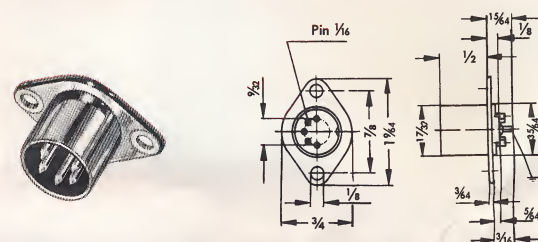


Type 59GB5F—typical

Unique 3 and 5 contact receptacles include a 1-B (closed-circuit) switch which is mounted to drawn metal shell. Switch is actuated by the shell of the mating plug. Receptacles also provide complete shielding through the "Ground Contact". Flared solder terminals.

Part No.	Description	Contact Arrangement	U.S.A. List Price
59GB3F	3 contacts at 180° plus closed-circuit switch. (Schematic #5)	B	\$1.30
59GB5F	5 contacts at 180° plus closed-circuit switch. (Schematic #5)	F	1.50

RECEPTACLE with Extended Shell

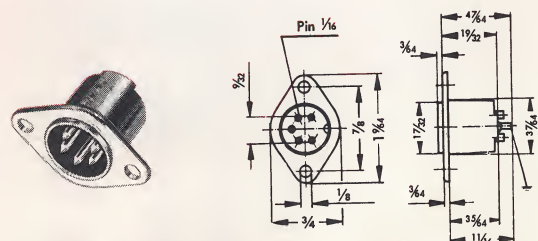


Type 61KD5M—typical

Male receptacle, 2 to 5 pins, with "Ground Key-Rib". Diecast extended shell and flange for chassis or panel mounting. Turret terminals.

Part No.	Description	Pin Arrangement	U.S.A. List Price
56KD2M	2 pins with insulated switch actuator.	1	\$1.00
57KD3M	3 pins at 180°	2	1.00
57KD5M	5 pins at 180°	5	1.20
60KD4M	4 pins at 210°	3	1.10
61KD5M	5 pins at 240°	4	1.20

RECEPTACLE for Recessed Mounting



Type 61JD5M—typical

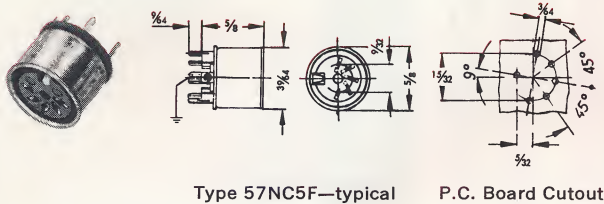
Male receptacle, 3 to 5 pins, with "Ground Key-Rib". Diecast metal shell and mounting flange. Turret type terminals for easy soldering.

Part No.	Description	Pin Arrangement	U.S.A. List Price
57JD3M	3 pins at 180°	2	\$1.00
60JD4M	4 pins at 210°	3	1.10
61JD5M	5 pins at 240°	4	1.20





RECEPTACLE for Printed Circuit Board Mounting

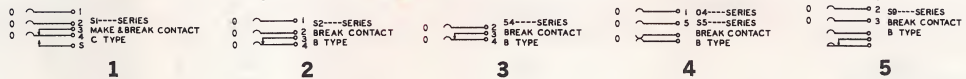


Type 57NC5F—typical P.C. Board Cutout

Mounts direct to printed circuit boards. Special P.C. type terminals "snap-in" precut boards. See drawing. Tubular metal shell with "Ground Contact". Part No. 58NC3F mates with either 3 pin or 5 pin (at 180°) plugs because of its 2 extra blanks in the contact insert.

Part No.	Description	Contact Arrangement	U.S.A. List Price
57NC5F	5 contacts at 180°	F	\$0.80
58NC3F	3 contacts at 180° 2 extra blanks	C	.60

SCHEMATIC CIRCUITS



CONTROL and SWITCHING RECEPTACLES

Originally designed for connecting a remote speaker to existing equipment, or for stereo applications, these singular receptacles are also ideal for use in many types of electronic test and measurement equipment.

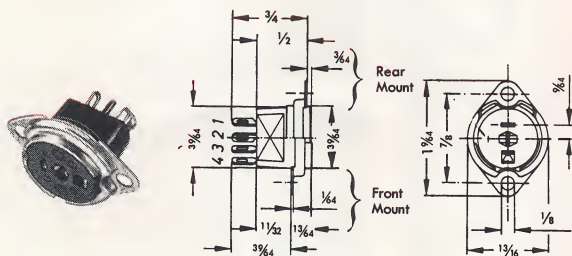
When inserting mating plug, Part No. 01QK2M, contact is made to terminal Nos. 1 and 2. The receptacle's built-in closed-circuit switch is not actuated. Plug can then be turned 180°, without a polarity change, and re-inserted in receptacle to open switch and make contact to

terminal No. 2. This convertible feature is available in receptacle Nos. 51DA2F, 52BA2F, 52CA2F and 52DA2F.

Control and switching receptacles are offered in several different mounting and housing types, such as: metal flange for screw mount, metal rivet mounting flange and an insulated molded type. See drawings and listings below.

Each receptacle includes an elongated center contact for positive polarization. The silver-plated fork shaped contacts are reinforced with an additional steel spring for long dependable life.

RECEPTACLE with Metal Mounting Flange

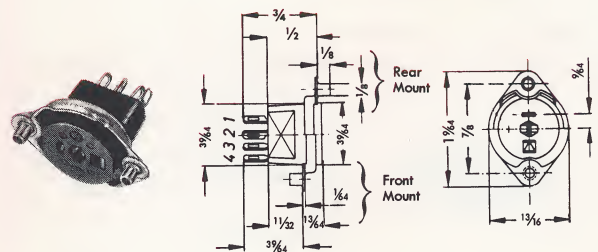


Type 52DA2F—typical

Female receptacles with molded body and metal flange for screw mounting to chassis or panel. No "Ground Contact". Metal flange for front of panel mounting furnished as standard. Flange for rear of panel mounting available on special order. Refer to above dimensional drawing.

Part No.	Description	Contact Arrangement	U.S.A. List Price
52DA2F	2 contacts (Schematic #2) with closed-circuit switch. Convertible.	J	\$0.65
53DA2F	2 contacts.	K	.55
54DA2F	2 contacts (Schematic #3) with closed-circuit switch. Not convertible.	L	.60

RECEPTACLE with Metal Rivet Mounting Flange



Type 52BA2F—typical

Unique female receptacle with metal flange for rear of panel rivet mounting. Front of panel rivet mounting flange is also available on special order. Molded plastic body, no "Ground Contact".

Part No.	Description	Contact Arrangement	U.S.A. List Price
52BA2F	2 contacts (Schematic #2) with closed-circuit switch. Convertible.	J	\$0.70
53BA2F	2 contacts.	K	.60
54BA2F	2 contacts (Schematic #3) with closed-circuit switch. Not convertible.	L	.65



RECEPTACLES

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SWITCHCRAFT[®]

GENERAL OFFICE AND PLANT
5555 NORTH ELSTON AVENUE, CHICAGO, ILLINOIS 60630
Area Code: 312 Tel.: 774-1515 TWX: 312-265-1314